

<b>Office Action Summary</b>	<b>Application No.</b> 09/487,151	<b>Applicant(s)</b> AMTMANN ET AL.	
	<b>Examiner</b> Dac V. Ha	<b>Art Unit</b> 2634	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 January 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                    | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                           | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5,6</u> . | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Specification***

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 3-4, the recitation "(MA, PW, MI, RTZ, FSK, PSK)" has made the claim indefinite. While indication "(MA, PW, MI, RTZ, FSK, PSK)" is one of the encoding method used, it is restricted to only "RTZ" and "MI" on lines 14, 16. It is not clear what the applicants' intention is.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-3, 5, 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Dent et al. (US 6,044,485).

**Regarding claim 1**, the admitted prior art teaches the claims subject matter "receiving means ... output by the decoding means" on page 1, paragraph 1 of the instant application. The admitted prior art differs from the claimed invention in that it doesn't teach the claimed subject matter "characterized in that the decoding means ... with a second encoding method (MI)." The attention is now directed to Dent et al. patent. Dent et al. disclose a system using adaptive coding, which teaches the claimed

subject matter “characterized in that the decoding means ... with a second encoding method (MI)” as follows. Dent et al. teach a communication system that utilizes plural decoders to accommodate different coding techniques or types used for the transmission to optimize the performance of the system. More particularly, Dent et al. teach the decoding process includes “a first decoding stage” (Figure 2, element 208) and “a second decoding stage” (Figure 2, element 210). Dent et al. further teach the claimed subject matter “the first decoding stage” “being arranged to decode a data signal” “encoded in conformity with a first encoding method” “whereas the second decoding stage” “is arranged to decode a data signal” “encoded in conformity with a second encoding method” in Col. 4, lines 64-65, where the first decoder 208 decodes FEC code 1 and the second decoder 210 decodes FEC code 2.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the teaching of utilizing plural decoders in the receiver for accommodating different coding techniques used in the transmission system to improve the flexibility and performance of the system.

**Regarding claim 2**, Dent et al. further teach the determination of proper decoder for decoding the received signal Col. 4, line 65 to Col. 5, line 3; Figure 2, element 212, thus, Dent et al. teach the claimed subject matter “the decoding means ... received encoded data signal (DS1)”.

**Regarding claim 3**, Dent et al. further teach the claimed subject matter “the decision stage ... encoded data signal” in that element 214 in Figure 2 receives the information from the two “decoding stage” (element 208 and 210) via element 212 and

determine which “decoding stage” is the correct one for decoding the received signal (Col. 5, lines 5-19).

**Regarding claim 5**, the claimed subject matter “the decoding means ... by these decoding stages (12, 13)” would have been optional to one skilled in the art. That is, the use of a “storage stage” (i.e. buffer) in between any processing step would have improved the reliability and performance of the system.

**Regarding claim 7**, Dent et al. further teach the claimed subject matter “an encoding means ... fourth method (PSK)” in Figure 1, elements 110, 112. The claimed subject matter “that the carrier (1) includes modulation means ... a modulated carrier signal (MTS)” is taught implicitly by Dent et al. in Col. 4, lines 52-53. Dent et al. further teach the claimed subject matter “transmission means ... signal (MTS)” in Figure 1, element 116; Col. 4, lines 54-56.

5. **Claims 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Dent et al. as applied to claim 2 above, and further in view of Smith et al. (US 6,037,835).

**Regarding claim 4**, the admitted prior art and Dent et al. teach almost all the claimed subject matter in claim 4, as stated above, except for the claimed subject matter “the data carrier ... can be received next”. Smith et al. disclose a Multi-Mode Autonomous Selection Demodulator, which utilizes plural demodulators to accommodate a plurality of modulation techniques used in the system. Specifically, Smith et al. teach a method for automatically selecting the appropriate demodulator, thus demodulation method, for demodulating the received signal based on an

“instruction” from the preamble associated with the modulated signal (Abstract). In Dent et al. disclosure, the decoders do not have to know what type of coding used in the transmitter. The determination of which decoder is the appropriate for decoding the received signal is decided by element 214 in the receiver. Given the concept from Smith et al., that is selecting a particular modulation method then the information regarding this selection is sent to the receiver via a preamble, so that the receiver will know which appropriate demodulation technique to be used, one skilled in the art would have like to incorporate that concept into Dent et al. patent to further improve the speed and reliability of the system. Further, even though Smith et al. teach method for selecting from plural demodulators and Dent et al. concern plural decoder, the concept to be regarded here is how to select such process/component.

***Allowable Subject Matter***

6. **Claim 6** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior art of record, taken individually or collectively, fails to suggest the motivation for incorporating in an apparatus, as claimed, the claimed subject matter “before the decision stage (14) can decide which of the decoding stages (12, 13) is suitable for the decoding of a received encoded data signal (DS1), data (D1) output by the first decoding stage (12) can be output to the data processing means (11) for further processing”. Thus, claim 6 is found to be novel and unobvious over prior art of record.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Poon et al. (US 6,192,070) disclose an Universal Modem For Digital Video, Audio And Data Communications.

Ward et al. (US 5,701,294) disclose a System And Method For Flexible Coding, Modulations, And Time Slot Allocation In A Radio Telecommunications Network.

Kazawa et al. (US 5,434,886) disclose a Digital Communication System.

Dent et al. (US 5,230,003) disclose a Decoding System For Distinguishing Different Types Of Convolutionally-Encoded Signals.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 703-306-5536. The examiner can normally be reached on 5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-746-5813 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 305-5500.

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Dac V. Ha  
Examiner  
Art Unit 2634

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